



MARLIN® I-Pro

The Machine Reliability Inspection System for Operator Driven Reliability

The MARLIN® I-Pro is the newest addition to the SKF® family of hand-held mobile computers for Operator Driven Reliability (ODR). ODR, the framework for organizing the activities of plant operations personnel, is key to an organization's reliability maintenance program. The MARLIN system is the frontline tool for operators, enabling improved reliability through better communication with the plant wide team.

Built on Knowledge

Having introduced the first inspection tool for operators in 1992, SKF has gained a wealth of knowledge and experience with thousands of system implementations around the world. The MARLIN I-Pro incorporates SKF's extensive knowledge and experience in ODR, and offers advanced technology and an ergonomic design that enhances effectiveness while easing the process of routine inspections for the operator.

High Performance

The new MARLIN I-Pro is a rugged, high performance data collector, that enables plant operations personnel to quickly and easily collect, store and analyze overall machine vibration, process and inspection data. The unit enables trending, comparison with previous readings, alarm alerts and more. A "user notes" feature allows an operator to immediately record detailed observations of troublesome machine conditions or questionable measurements.

The unit's graphical-user interface (GUI) facilitates proficiency, enabling users to get up and running in no time – with minimal training required. On-board software provides push-button assistance, offering instructions to guide the user for the quickest and most appropriate response to changes in machine condition. Collected data may then be uploaded to a host PC for further review, analysis and follow-up action.



The high-resolution, backlit display with 1/4 VGA, along with the touch screen and ergonomic keypad make the MARLIN I-Pro easy to operate – and viewable even in the darkest locations. Drop tested, dust-tight and water resistant (IP65 certified), the MARLIN I-Pro is designed to withstand even the most hostile industrial environment.

Complete the System

The SKF Machine Suite software completes the system, allowing for more in-depth analysis and the communication of machine condition between operations, engineering, maintenance and plant management.

The MARLIN is available with a comprehensive range of accessories to maximize the benefit to your program. These include the patented Mechanical Condition Detector (MCD) and VibPak™ for identifying overall vibration levels. Additional accessories include sensors, infrared temperature gun, and analysis software.

The MARLIN unit may also be customized to handle statistical process control, scheduling, environmental, OSHA and other regulatory or internal plant requirements.

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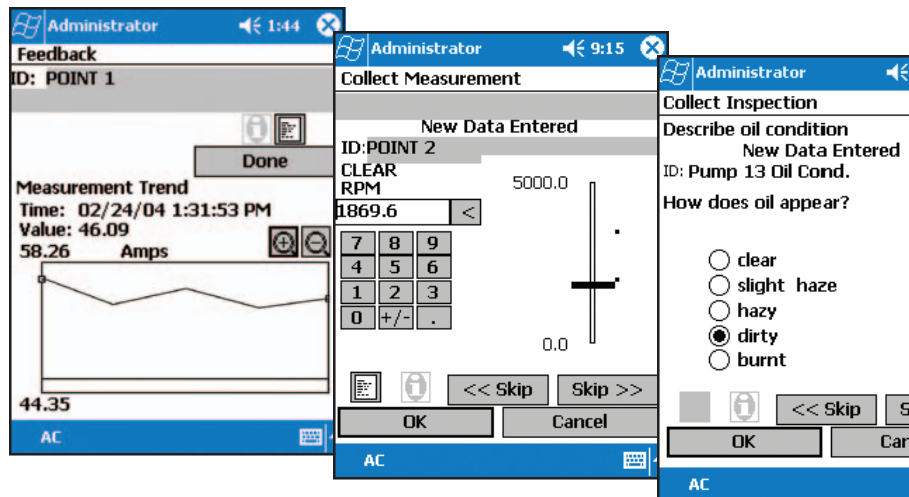
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www.skf.com/reliability

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SKF at Your Service

SKF offers a vast array of implementation services and support to ensure the essential cultural, process and technology adjustments are made to facilitate the success of your Operator Driven Reliability program. A Client Needs Analysis may be conducted to enable an objective view of your plant's reliability program and to make a determination for the best use of MARLIN to improve your plant's productivity.

SKF is at your service to share our competencies in condition monitoring and reliability maintenance services and to address your specific requirements to fully integrate the MARLIN system into your plantwide program. Our ultimate goal is to make the reliability improvements that align with your organization's business objectives.



Features and Capabilities

GLOBAL SETTINGS

- System
 - English or Metric
 - Operator ID
 - Date and Time Format
 - Password Protected (Four Levels)

DISPLAY

- Daylight Readable Color Display
- Hierarchy
 - MS Explorer Layout
 - Unlimited Levels
 - Visual Indication of Data Storage
 - Bars
 - Pen Interface
- Trend Plots
 - Cursor
 - Zoom
 - Alarm Overlay

ALARMING

- Threshold
 - Alert
 - Danger
- Window
 - In Window
 - Out Window
- % Changes
- Last Measurement
- Baseline
- SPC (Statistical Process Control)
 - 18 Rules
- Alarm Messages (User Defined)
 - Inspection Points

NAVIGATION

- Quick Hierarchy Navigation Guide
- Route
 - Download From PC Software
 - Smart Stud
- NonRoute
 - Key In Point Setup
 - Smart Stud

GENERAL

- Pen Based Interface
- Icon Driven
- Virtual Key Pad
- Forms (Collect)
 - Virtual Analog Gauge
 - Slider Bar
 - Text Inspection (Customizable)
 - Status Bar
 - Machine
 - Machine OK
 - Machine Not Operating
 - Collect
- Notes
 - Free Form Text
 - Coded Notes (User Defined)
- Forms (Review)
 - Current Reading
 - Last Reading
 - Baseline Reading
 - Alarm Summary
 - Date/Time
 - Units On Parameter
 - SPC Rule Status
 - Point ID and Description

- Reports
 - Exception
 - Last Measurement
 - End of Shift
 - Schedule Overdue
 - History
 - Statistics

MEASUREMENT TYPES

- Conditional Points
- Derived Points
- English or Metric Units
- Volts (AC or DC)
- Temperature: °C and °F
- Pressure (PSI)
- Flow (GPM, LPM)
- Bars
- Speed
- Units per Minute
- Inspection Points (User Definable)
 - Single
 - Multiple (up to five)
- MCD
 - Enveloped Acceleration
 - Velocity
 - Temperature

ENHANCED ALARMING

- User defined alarm database
 - Public Alarms that can be shared with other users
 - Private alarms that can only be used by specific users
 - Unlimited number of alarms available

- Four (4) overall alarm levels per measurement point
 - Danger High, Alert High, Alert Low, Danger Low
- Alarm Types
 - Overall Alarm
 - Inspection
 - MCD

COMMUNICATION

- Automatic Report generation based on data
- Download by Hierarchy, Route, or Workspace

DATA DISPLAYS

- Overall Trend Displays
- Inspection
- MCD

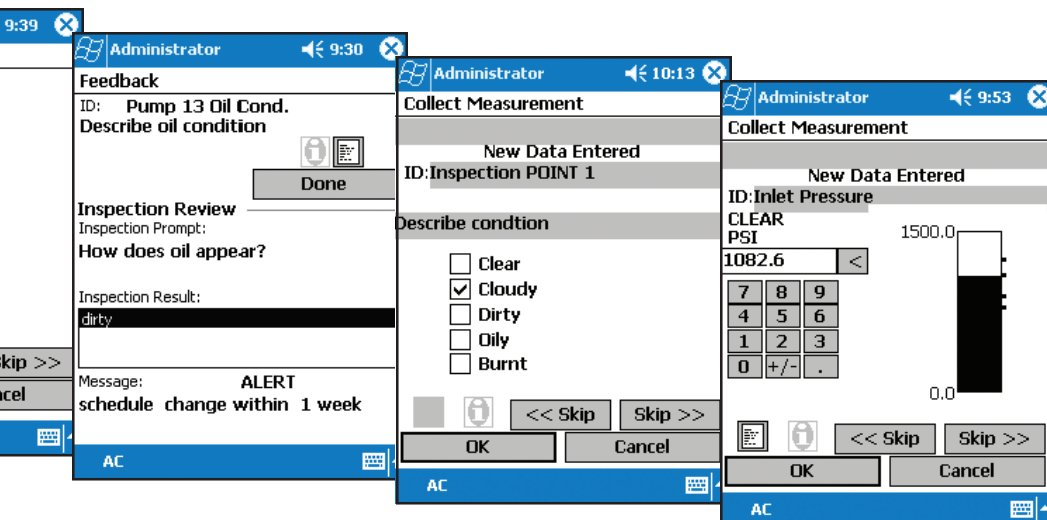
SECURITY

- Patented Password Access
- Use Privileges and Rights

GENERAL

- Context Sensitive Help
- Complete User Manual on Installation CD-ROM (Adobe Acrobat™ PDF format)
- Limited Warranty
- On-Site Product Installation and Training Services Available

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Specifications

PERFORMANCE CHARACTERISTICS

- Operating System:** Microsoft® Pocket PC
Microprocessor: Intel® XScale™ Processor, 400 MHz
Memory and Storage:
- **RAM Memory:** 64 MB
 - **Flash ROM:** 32 MB, includes ROM folder for application storage
- Internal Slots:**
- Secure Digital (SD)
 - CompactFlash (CF) Type II
- Icon Controls:** Power Status, Screen Contrast
Touch Panel: Resistive, 15.6 dots per cm (40 dots per inch)
Pen: Passive
PCMCIA Slots: One type I or II – user accessible
Keypad: Numeric

POWER

- Battery Type:** Lithium Ion, 7.2 V, (2 x 2000 mAh cells) customer replaceable
Battery Capacity: 14.4 Watt-hours
Battery Life: 6 to 10 hours, application dependent
Recharging Time: 4 hours

COMMUNICATIONS

- Standard Communication Ports:**
- Serial Cable
 - 10 Base-T Ethernet

USER ENVIRONMENT

- Operating Temperature Range:** -10°C to +60°C (+14°F to +140°F) application dependent
Storage Temperature Range: -20°C to +60°C (-4°F to +140°F)
Relative Humidity: 5% to 95% (non-condensing)

Rain and Dust Resistance: IP64 compliant

Drop Specification: 1.5 meters (5 feet)

PHYSICAL CHARACTERISTICS

- Weight:** 568 grams (20 oz)
Dimensions: Length: 191 mm (7.53 in.)
 Width: 90 mm (3.50 in.)
 Height: 50 mm (1.97 in.)

Display: Reflective daylight readable color display, 240 pixels x 320 pixels, 97 mm (3.80 in.) diagonal

REGULATORY APPROVALS

- FCC Part 15 Class B
- UL Listing
- CE Mark
- CB Report

HAZARDOUS AREA RATINGS

Non-Incendive for: Class I, Division 2, Groups A, B, C, D Temperature Code T6 (CMDM 6120 only)

Suitable for: Class II, Division 2, Groups F, G
 Class III, Division 2, Nonconductive Dust Only

SAFETY CERTIFICATIONS FOR HAZARDOUS ENVIRONMENTS

The MARLIN I-Pro Model CMDM 6120 has achieved the safety certification rating of Class I, Division 2, Groups A, B, C, D Temperature Code T6 ("Non-Incendive"). The MARLIN Pro IS Model CMDM 5000 IS has achieved the Intrinsic Safety rating from an European regulatory agency, and is rated Ex II1G for Group II (Petrochemical) EEx ia IIC T4 (ATEX directive). The Mechanical Condition Detector is also certified Intrinsically Safe for both Europe and North America.

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Ordering Information

CMDM 6110 MARLIN I-Pro CS, Numeric Keypad with Bar Code Scanner

CMDM 6120 MARLIN I-Pro NI2, Numeric Keypad with Bar Code Imager, NI (Non-Incendive)

Each MARLIN I-Pro Kit [CMDM 61xx-A-xx] contains:

- MARLIN I-Pro data manager (MDM)
- MARLIN Application
- User Manual (CD)
- Communication/Recharging Dock
- Lithium Ion Battery
- Serial Communication Cable (Dock to PC)
- Carrying Case with Shoulder Strap, Hand Strap, Tethered Stylus
- Secure Digital Card (64 MB)
- Card Extractor
- Quick Reference Card

MARLIN I-Pro Starter Sets

CMDM 61xx-B-xx

- MARLIN I-Pro Kit
- MARLIN Condition Detector (MCD Pro IS) with Cable

CMDM 61xx-C-xx

- MARLIN I-Pro Kit
- MARLIN Condition Detector (MCD Pro IS) with Cable
- SKF Machine Inspector Stand-alone Version

Accessories

HARDWARE

- MARLIN Condition Detector (MCD Pro IS) Kit, requires CMAC 6107 Cable [CMVL 3600-IS-K-01-C]
- Infrared Thermometer Kit, requires CMAC 6108 Cable [CMAC 4220-CE-SL]
- MARLIN VibPak Kit for the MARLIN I-Pro, requires CMAC 3725 Cable [CMVL 3700-40-K]

COMMUNICATIONS

- Communication/Recharging Dock [CMAC 6101]
- MARLIN I-Pro to MCD Pro IS Cable [CMAC 6107]
- MARLIN I-Pro to Infrared Temperature Gun Cable [CMAC 6108]
- Serial Communication Cable, Dock to PC [CMAC 6106]
- MARLIN I-Pro to VibPak Cable [CMAC 3725]

BATTERY AND POWER

- Lithium Ion Battery 7.2 Volts [CMAC 6111]
- Charger, Four (4) Batteries Simultaneously [CMAC 6112]
- Charger, One (1) Battery [CMAC 6113]

MISCELLANEOUS

- Carrying Case with Shoulder Strap, Hand Strap [CMAC 6102]
- Tethered Stylus, Five (5) Pack [CMAC 6105]
- Screen Protectors, Twelve (12) Pack [CMAC 6114]

INTERNATIONAL

Each MARLIN I-Pro Kit is available in the following languages:

- English [CMDM 61xx-A-EN]
- German [CMDM 61xx-A-DE]

- Finnish [CMDM 61xx-A-FI]
- French [CMDM 61xx-A-FR]
- Portuguese [CMDM 61xx-A-PO]
- Spanish [CMDM 61xx-A-SP]
- Swedish [CMDM 61xx-A-SW]

POWER CORDS

- NOTES:
- Contact your local SKF Sales Representative for any export restrictions.
 - For International Power Cord accessories, two (2) cord sets will be provided, the standard North American power cord and the requested International power cord.
 - Power Cord, Australia [CMAC 4222-AU]
 - Power Cord, Denmark [CMAC 4222-DK]
 - Power Cord, European [CMAC 4222-EUR]
 - Power Cord, Israel [CMAC 4222-IL]
 - Power Cord, Italy [CMAC 4222-IT]
 - Power Cord, Japan [CMAC 4222-JP]
 - Power Cord, Switzerland [CMAC 4222-CH]
 - Power Cord, United Kingdom [CMAC 4222-UK]

MQC (MARLIN QUICKCONNECT) AND MOUNTING

- MQC (MARLIN QuickConnect) – Mechanical M8 x 1.25 mounting thread – three (3) studs per package [CMSS 2600-3]
- MQC (MARLIN QuickConnect) – Mechanical 1/4-28 mounting thread – three (3) studs per package [CMSS 2610-3]
- MQC (MARLIN QuickConnect) – Computerized M8 x 1.25 mounting thread – three (3) studs per package [CMSS 2601-3]
- MQC (MARLIN QuickConnect) – Computerized 1/4-28 mounting thread – three (3) studs per package [CMSS 2611-3]
- Tool Kit for Spot Face 1/4-28 [CMAC 9600-01]
- Tool Kit for Spot Face M8 x 1.25 [CMAC 9600-02]
- Drill Bit for 1/4-28 Kit [CMAC 9600-03]
- Tap for 1/4-28 Kit [CMAC 9600-04]
- Pilot for 1/4-28 Kit [CMAC 9600-05]
- Drill Bit for M8 x 1.25 Kit [CMAC 9600-06]
- Tap for M8 x 1.25 Kit [CMAC 9600-07]
- Pilot for M8 x 1.25 Kit [CMAC 9600-08]
- End Mill or Counter Bore for Either Kit [CMAC 9600-09]

Product Support Plans (PSP)

Product	PSP
CMDM 61xx-A	PSP 017
CMDM 61xx-B	PSP 018
CMDM 61xx-C	PSP 019
<ul style="list-style-type: none"> • One (1), Two (2) or Three (3) Year Product Support Plans. 	

Please contact your local SKF Reliability Systems representative for details on Product Support Plans for the SKF Machine Analyst for MARLIN and SKF Machine Inspector Software.



SKF Reliability Systems

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